

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. - 48. (Cancelled)

49. (Currently Amended) ~~One or more populations~~ A population of gold-containing scattered light-detectable gold particles, wherein the coefficient of variation in size within said ~~one or more populations~~ population is less than 5%, said gold particles comprising a surface coat of gold, ~~silver or silver alloy, wherein for one or more of said populations said surface coat is about 0.5, 0.8, 1, 1.5, 2, 3, 4, 5, 6, 9, 10, 12, 19, 20, 39, 49 or 74 nm thick, [[and]]~~ wherein said gold particles having have a diameter of ~~1 to 500 nm inclusive~~ from about 10 nm to about 140 nm and have maximum absorption wavelengths of from about 525 nm to about 635 nm, and wherein said gold particles further comprise at least one additional material on their surfaces.

50. (Currently Amended) The ~~populations~~ population of claim 49, wherein said at least one additional material does not interact with light in the visible region of the spectrum.

51. (Currently Amended) The ~~populations~~ population of claim 50, wherein ~~for one or more of said populations~~ said at least one additional material comprises a protein, a nucleic acid, a peptide or a carbohydrate.

52. (Currently Amended) The ~~populations~~ population of claim 50, wherein ~~for one or more of said populations~~ said at least one additional material comprises a polymer.

53. - 54. (Cancelled)

55. (Currently Amended) The ~~populations~~ population of claim 49, wherein said gold particles are spherical, oval or ellipsoidal.

56. - 70. (Cancelled)

71. (Currently Amended) The ~~populations~~ population of claim 49, wherein ~~for one or more of said populations~~ said gold particles further comprise a magnetic or ferroelectric material.

72. (Currently Amended) The ~~populations~~ population of claim 49, wherein ~~for one or more of said populations~~ said gold particles further comprise a mixture of metal-like materials and a magnetic or ferroelectric material.

73. (Currently Amended) The ~~populations~~ population of claim 49, wherein for ~~one or more of said populations~~ said gold particles further comprise silver and a magnetic or ferroelectric material.

74. (Cancelled)

75. (Cancelled)

76. (Currently Amended) The ~~populations~~ population of claim 49, wherein for ~~one or more of said populations~~ said gold particles are of a size between 10 and 45 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.

77. - 79. (Cancelled)

80. (Currently Amended) The ~~populations~~ population of claim 49, wherein for ~~one or more of said populations~~ said gold particles further comprise silver and are of a size between 5 and 50 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.

81. - 83. (Cancelled)

84. (Currently Amended) The ~~populations~~ population of claim 49, wherein for ~~one or more of said populations~~ said gold particles further comprise silver and are of a size between 10 and 45 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.

85. - 165. (Cancelled)

166. (Currently Amended) The ~~populations~~ population of claim 49, wherein ~~for one or more of said populations~~ said at least one additional material comprises a binding agent capable of binding specifically to a predetermined analyte.

167. (Currently Amended) The ~~populations~~ population of claim 166, wherein there is a detectable difference in the color of the scattered light scattered by ~~two or more populations~~ said gold particles in the population, and wherein ~~said binding agent of each said two or more populations is different and is~~ said at least one additional material comprises two or more binding agents capable of binding different predetermined analytes.

168. (Currently Amended) The ~~populations~~ population of claim ~~[[49]]~~ 166, wherein ~~for one or more of said populations~~ said binding agent comprises biotin, avidin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, flourescein or a pharmaceutical agent.

169. (Currently Amended) The ~~populations~~ population of claim 49, wherein ~~for one or more of said populations~~ said at least one additional material comprises a plurality of base molecules.

170. (Currently Amended) The ~~populations~~ population of claim 49, wherein ~~for one or more of said populations~~ said at least one additional material comprises a plurality of different base molecules.

171. (Currently Amended) The ~~populations~~ population of claim ~~168 or 169 or 170~~, wherein ~~for one or more of said populations~~ said base molecules comprise a gelatin, a polyethylene glycol, a carbohydrate, a polyamino acid or a protein.

172. (Currently Amended) The ~~populations~~ population of claim 168, wherein ~~for one or more of said populations~~ said at least one additional material further comprises a binding agent that is bound to said base molecules, and wherein said binding agent is capable of binding specifically to a predetermined analyte.

173. - 175. (Cancelled)

176. (Currently Amended) The ~~populations~~ population of claim 49, wherein ~~for one or more of said populations~~ said gold particles are of a size of 60 to 120 nm, and wherein said additional material comprises biotin, avidin, streptavidin, a nucleic acid, a protein a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, flourescein or a pharmaceutical agent.

177. (Currently Amended) The ~~populations~~ population of claim 49, wherein ~~for one or more of said populations~~ said gold particles are of a size of 80 nm, and wherein said additional material comprises biotin, avidin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

178. (Currently Amended) The ~~populations~~ population of claim 49, ~~where for one or more of said populations~~ wherein said gold particles are of a size of 40 nm to 100 nm, and wherein said additional material comprises biotin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

179. (Currently Amended) The ~~populations~~ population of claim 49, wherein ~~for one or more of said populations~~ said gold particles are of a size of 60 nm, and wherein said additional material comprises biotin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

180. (Currently Amended) The ~~populations~~ population of claim 49, wherein ~~for one or more of said populations~~ said gold particles are of a size of 80 nm, wherein said additional material comprises antibiotin antibodies, antidigoxinin antibodies, or antifuorescein antibodies.

181. (Currently Amended) The ~~populations~~ population of claim 49, wherein ~~for one or more of said populations~~ said gold particles are of a size of 60 nm, wherein said additional material comprises antibiotin antibodies, antidigoxinin antibodies or antiluorescein antibodies.

182. - 216. (Cancelled)

217. (New) The population of claim 49, wherein said surface coat is about 0.5, 0.8, 1, 1.5, 2, 3, 4, 5, 6, 9, 10, 12, 19, 20, 39, 49 or 74 nm thick.

218. (New) The population of claim 49, wherein said gold particles are solid gold particles.